



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,710	06/22/2006	Kris V. Kumar	128346.33301	9802
21269	7590	07/05/2007		
PEPPER HAMILTON LLP ONE MELLON CENTER, 50TH FLOOR 500 GRANT STREET PITTSBURGH, PA 15219			EXAMINER GRANT, ALVIN J	
			ART UNIT 3723	PAPER NUMBER
			MAIL DATE 07/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/596,710

Applicant(s)

KUMAR ET AL.

Examiner

Alvin J. Grant

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,8,10,12-14,18-22,27-29,31,32,35 and 37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1,2,4,5,8,10,12-14,18-22,31 and 32 is/are allowed.
- 6) ☒ Claim(s) 27-29,32,35 and 37 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/23/06
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 27 and 28** are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka Isamu JP 57156156.

Isamu discloses a method of grinding a ferrous roll having a rotating roll surface with a rotating grinding wheel, the method comprising: mounting the grinding wheel on a rotating spindle; bringing the rotating wheel into contact with the rotating roll surface and traversing the wheel across the roll length, and grinding the roll surface while maintaining one or both of the grinding wheel rotational speed and the mill roll rotational speed is varied at an amount of +/-1 to 40% in amplitude, with a period of 1 to 30 seconds; and the wheel rotational frequency is varied at an amplitude of +/-20% with a period of less than 5 seconds (Figs. 1-3 and Abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3723

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 32** is rejected under 35 U.S.C. 103(a) as being unpatentable over Isamu.

Isamu is described above. Isamu does not specifically disclose the dimension of the workpiece. The results of the grinding process is essentially the same as those claimed in the instant application; therefore the size of the workpiece does not lend any criticality to the outcome of the grinding process.

5. **Claims 29 and 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Isamu in view of Mori et al. US 2002/0009950.

Isamu is described above. Isamu does not specifically disclose a surface roughness of less than 3 micrometer and the abrasive layer comprising diamond or cubic boron nitride. Mori et al. discloses a grinding apparatus in which the grindstone is made of material selected from the group comprising diamond and cubic boron nitride that provide a surface hardness of less than 3 microns so as to enhance the smoothness of the surface of the workpiece. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the grindstone of Isamu out of material selected from the group comprising diamond and boron nitride that provide a surface finish of less than 3 microns as taught by Mori et al. so as to enhance the smoothness of the workpiece.

Claim 36 is rejected for being dependent on a cancelled claim.

Art Unit: 3723

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Isamu in view of Smith 5,177,901.

Isamu is described above. Isamu does not specifically disclose a rotational speed of 3,600 to 12,000 fpm. Grinding wheel system in which the grinding wheel is rotated from 3,600 fpm to 12,000 fpm so as to minimize the occurrence of metallurgical fracture. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the apparatus of to have made the grinding wheel of Isamu to have the grinding wheel rotated from 3,600 fpm to 12,000 fpm as taught by Smith so as to minimize the occurrence of metallurgical fracture.

Allowable Subject Matter

6. **Claim 31** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. **Claims 1, 2, 4, 5, 8, 10, 12-14 and 18-22** are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin J. Grant whose telephone number is (571) 272-4484. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail can be reached on (571) 272-4485. The

Art Unit: 3723

fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alvin J Grant
Patent Examiner
Art Unit 3723

ajg